

REMARKS

Claims 8-16 stand rejected under 35 USC 103 over Oshima in view of Heer et al. Applicant respectfully traverses.

Oshima discloses that if it is desired that a ship should generate underwater noise at a reduced level, for example because the ship uses underwater acoustic equipment, it is advantageous for the ship to employ turning propellers 3 for steering while a main propeller 1 is used for propulsion of the ship. Oshima contains no disclosure regarding a cargo deck or a cargo space.

Heer et al discloses a Roro vessel driven by steering propeller units that serve not only for steering but also provide the necessary propulsion force, i.e. there is no separate propulsion propeller. Heer et al proposes that the problems associated with use of steering propulsion devices in a Roro vessel should be solved by adopting a special design of the upper parts of the steering propulsion devices. The approach taken by Heer et al has its own disadvantages. For example, propulsion devices of this kind based on two large pod propulsion units require considerable electric power and the generator sets are heavy, bulky and expensive.

The examiner argues that it would have been obvious to use the propulsion and steering system disclosed by Oshima on a cargo ship having an aft cargo space as taught by Heer et al, even though the record does not establish that the problem to be solved by the structure disclosed by Oshima, namely reducing underwater noise in an oceanic research ship that uses underwater acoustic equipment, arises in the Roro ship disclosed by Heer et al.

The examiner attempts to mitigate the deficiency in the disclosure of Oshima by asserting that "a main propulsion unit mounted in a conventional way, as in Oshima[,], is capable of producing a higher propulsion output." Applicant understands that the examiner's reference to "a conventional way" refers to a shaft-mounted propeller, as shown by the propeller 1 of Oshima. Applicant submits that the examiner has exaggerated the disclosure of Oshima and that Oshima does not in fact disclose that a shaft-mounted propeller is capable of producing a higher propulsion output: the propulsion output depends on many factors, not just whether the propeller is shaft-mounted or steerable.

The only disclosure in the prior art of a ship having both a shaft-mounted propeller and steering propulsion devices is in Oshima. Heer et al discloses a Roro ship equipped with two steering propellers and capable of navigating at high speed (abstract, line 1). The examiner asserts that the use of steering propellers as disclosed by Heer et al creates problems, but the record does not in fact show any evidence of a problem in the Roro vessel disclosed by Heer et al. Heer et al, as an issued U.S. patent, enjoys a presumption of validity, including the presumption of an adequate disclosure,

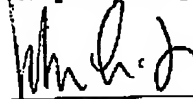
and accordingly the examiner may not support a rejection of applicant's claims by contending that the propulsion arrangements in Heer et al are in some manner defective, such as to require a shaft-mounted main propeller and relegate the propellers 18, 19, for example, to steering service only.

Applicant further submits that it would not have been obvious to a person of ordinary skill in the art to have modified the ship disclosed by Heer et al in the manner suggested by the examiner because it would involve including an additional main propulsion means without eliminating either of the steering propellers.

The examiner asserts that the disclosure of Oshima is not limited to any particular vessel. Applicant respectfully disagrees. Oshima is explicitly concerned with an oceanic research ship or the like using underwater acoustic equipment, such that reduction of underwater noise is desirable.

For the reasons explained above, applicant submits that Oshima and Heer et al are not combinable in the manner suggested by the examiner. Accordingly, the rejection of claims 8-16 under 35 USC 103 must be withdrawn and this application should be allowed.

Respectfully submitted,



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